

REMARKS/ARGUMENTS

Status of Claims

Claims 1 and 4 are pending. Claims 2, 3, 5 and 6 have been withdrawn from further consideration. Claims 1 and 4 have been amended.

Overview of the Office Action

The Examiner has requested that Applicants provide the current status of the parent application Serial Number 08/902,453.

The abstract of the disclosure stands objected to as containing more than 150 words.

The title of the invention stands objected to as not descriptive.

Claims 1 and 4 stand objected to because of informalities.

Claims 1 and 4 stand rejected under 35 U.S.C. §112, second paragraph as indefinite.

Claim 1 stands rejected under 35 U.S.C. §103(a) as unpatentable over Koller in view of Mews.

Claim 4 is allowable if suitably rewritten in independent form.

Amendments addressing informalities

The status of the parent application has been updated.

The abstract of the disclosure has been rewritten and, as presented, complies with MPEP 608.01(b).

The title of the invention has been changed in accordance with the Examiner's suggestion.

The claims have been amended to eliminate all of the informalities listed in paragraph 8 of the Office Action.

Withdrawal of the objections to the title, abstract and claims is respectfully requested.

Amendments addressing rejection of claims 1 and 4 under 35 U.S.C. §112, second paragraph

Claim 1 has been amended to substitute the term “connection zone” for the term “contact zone” throughout the text of claim 1. The phrase “or the establishing a through-wire connection” recited in claim 4 has been deleted.

Withdrawal of the §112 rejection of claims 1 and 4 is respectfully requested.

Summary of subject matter disclosed in the specification

The following descriptive details are based on the specification. They are provided only for the convenience of the Examiner as part of the discussion presented herein, and are not intended to argue limitations which are unclaimed.

The wiring method of the invention permits the automatic wiring of one or more terminals 2 (FIG. 1). The terminal 2 comprises a housing 4 which has a pair of walls 9 and 10 spaced from one another so as to define a throughgoing passage that generally extends along the wiring path within housing 4. See FIG. 3, for example. A slit blade insulation piercing connector (SBIPC) 11 is retained within the passage and has a slit 12 defining a connection zone 3 for receiving a portion of a wire 20. See FIGS. 4-29. The throughgoing passage of housing 4 is formed with at least one groove 16 (FIG. 2) opening into the wall of the housing that bridges side walls 9 and 10 and is aligned with slit 12 so that the grooves 16 flank slit 12 of connection zone 3. See specification, page 15, lines 20-33 and page 16, line 1; page 18, lines 4-5. The grooves 16 are *not penetrated by* a wiring finger 31 of an electrical wiring device 1 during all stages of wiring the terminal. This feature is to be noted because it enables fabrication of housing 4 of

terminal 2 so that its dimensions can be selected “*without consideration of the dimensions of the positioning finger....*” See Specification, page 6, lines 11-13 and page 7, lines 14-23.

During the initial wiring of terminal 2 with an electrical device 1, a wiring or positioning finger 31, a pressure element 37 and a cutter 38 (FIGS. 1, 2, 20-29) of the device 1 are in a starting position above housing 4. See FIG. 20. After feeding a predetermined length of wire 20 through the outlet 35 of wiring finger 31 into pressure element 37, all three components of device 1 are conjointly lowered towards terminal 2 to press wire 20 into slit 12 of the SBIPC. See Specification, page 25, lines 6-15; FIG. 21. During insertion, finger 31 remains outside groove 16, which constitute portions of housing 4 surrounding the SBIPC. *Id.* Positioning the finger outside the housing's portions allows grooves 16 and, thus, housing 4 to be dimensioned smaller than finger 31. See page 7, lines 11-13 and page 25, line 18.

During final wiring, wire 20 is received in pressure element 37 which, along with finger 31, is positioned outside housing 4 of the terminal. Then, while keeping finger 31 outside at least portions of the housing surrounding the SBIPC, the wire is cut and further pressed into SBIPC. See page 27, last paragraph and page 28, top paragraph; FIGS. 28-29.

Thus, according to the method of the invention, wiring finger 31 is not located within the portions of housing 4 surrounding the SBIPC at any phase of the wiring process. As a consequence, the dimension of the housing portions of the terminal can be reduced which has several advantages including those mentioned, for example, on page 6, lines 1-7 and page 16, lines 8-19 of the specification.

Descriptive summary of the prior art

KOLLER

Koller discloses terminal elements 26 and 26a each comprising at least one slit blade insulation piercing connector 126. The terminal element has a groove-like recess or depression 29 formed next to the slit of connector 126. See FIGS. 4 and 5. During initial and final wiring of the terminal elements, a wiring finger 2 and a pressing element 19 of a wiring device engage the groove-like recess or depression 29 of the terminal element. See column 4, lines 39-48. See FIG. 4. Similarly, during cutting of the wire, the finger 2 is introduced into recess 29 of terminal element 26. See FIG. 5.

MEWS

Mews discloses a terminal that has a housing provided with grooves which surround a connection zone of a connector retained in the housing. A wiring finger engages the grooves during all phases of the wiring process.

Patentability of independent claim 1 under 35 USC §103 (a)

Withdrawal of 103 rejection of claim 1 is respectfully requested since neither Koller nor Mews as applied individually nor the Koller/Mews combination teaches or suggests maintaining a wiring finger *outside portions of an insulated housing surrounding a SBIPC during initial and final wiring steps*, as recited in original claim 1 and clarified in amended claim 1.

The Examiner admits that Koller does not teach an insulating housing as recited in claim 1. But the Examiner contends that Koller discloses “positioning the finger spaced ...outside the connection zone and *portions of the SBIPC*” during an initial wire connection. See Office Action (OA), page 5, lines 18-19. The Examiner's interpretation of the method recited in Claim 1 is

incorrect, with all due respect. Original claim 1 recites "the wiring finger (31) spaced from the terminal (2) and outside of the contact zone (3) and portions of the *housing surrounding the SBIPC*", not only "*portions of the SBIPC*", as stated by the Examiner. Positioning the wiring finger outside *the housing* of the terminal during an initial wiring step is one of salient features of the invention, which is neither taught nor suggested by Koller, as will be shown immediately below.

Koller teaches a terminal 26a which is configured with a housing that retains a SBIPC connector 126 and has a groove-like recess or depression 29 "formed on either side of the connector 126." See col. 4, lines 19-20. Koller teaches that recesses or depressions 29 are formed in the housing of terminal 26a and flank the connection zone defined by connector 126. Koller, then, explicitly teaches that the finger 2 is engaged in the recess 29 (col. 4, lines 43-45), and, before moving a wiring finger 2 to a second connecting (final) wiring position of subsequent connector 26, "the pressing element is raised ... in order to *permit the finger... to leave the right portion of the recess or depression 29 of the prior connector 26a.*" See col. 4, lines 26-29. Consequently, Koller explicitly teaches positioning the wiring finger within the housing portions that include recesses 29 during the initial wiring phase.

In contrast, amended claim 1 recites positioning the wiring finger outside of the portions of the insulating housing while "pressing the wire (20) by the pressure element into the SBIPC (11)" during the initial wiring step.

The Examiner further asserts that Koller teaches establishing a final wire connection by "pressing with the pressing element 19 the wire into the SBIPC while maintaining the finger outside of the connection zone and portions of the SBIPC (see col. 5, lines 11+)." See Office Action, page 6, lines 4-6. Again, Applicants cannot agree with the Examiner on this issue.

First of all, original claim 1 recites that during the final wire connection the finger is maintained "outside of the contact zone and *portions of the housing surrounding the SBIPC*", not just "portions of the SBIPC" as stated by the Examiner. As mentioned above, a salient feature of the invention is the positioning of the wiring finger "outside the connection zone (3) and portions of the insulated housing surrounding the SBIPC (11)", as recited in claim 1, which, contrary to the Examiner's statement, Koller neither teaches nor suggests. Thus, in contrast to the invention as recited in claim 1, Koller explicitly teaches that "a finger 2 and a pressing element 19 *engage* the groove-like recess or depression 29 of the terminal 26" during the final wiring step. See column 4, lines 41-47.

Maintaining the wiring finger inside the housing of the terminal even during a cutting phase is further taught in col. 5, lines 11+ of Koller, which the Examiner refers to on page 6, line 6 of Office Action in order to provide an evidentiary basis for the Examiner's contention regarding the outside position of the wiring finger relative to the housing of the terminal. The referred text describes how to displace "the horizontal portion 43 of the finger downwardly by a small distance, so that the terminal portion of the wire will receive...a slightly downwardly oriented bend...Thus, the same effect as that obtained by the nose 25 can be achieved..." See col. 5, lines 12-18. Turning now to nose 25, Koller teaches that the nose "presses the wire 5 to the bottom of the associated *groove or recess 29*" of the terminal 26. See col. 4, lines 58-59. Returning to the finger, as taught by Koller, it is clear that this finger moves within the groove 29 of the portions of the terminal's housing surrounding the connection zone while the wire is being cut. Consequently, Koller teaches introducing wiring finger 2 into recess or depression 29 of the terminal's housing *irrespective* of whether a wire is pressed into the SBIPC during the initial wiring step or final wiring step, or whether the wire is being cut.

Thus, Koller, besides failing to teach the insulating housing, also does not teach positioning of the wiring finger "outside the connection zone (3) and portions of the insulated housing surrounding the SBIPC (11)", as recited in claim 1.

The Examiner combines Mews with Koller to show that "[I]t is conventional and notoriously well known in the art of connecting terminals to wires that SBIPCs in general have connections zones within an insulating housing." See Office Action, page 6, second full paragraph. However, Mews discloses a terminal that is similar to the terminal taught by Koller as far as a connector assembly is concerned. Mews teaches a terminal housing having two spaced side walls 6, which together with an associated bottom wall 12, form a groove-like indentation having a rectangular cross-section, ribs 12 and an insertion slit 9. See FIGS. 1 and 5, column 4, lines 9-21. Mews is silent about keeping a wiring finger outside the insulating housing. Consequently, Mews cannot remedy the deficiencies of Koller. Since neither of the cited references teaches or suggests maintaining the wiring finger outside portions of an insulated housing surrounding a SBIPC during the initial and final wiring steps, as recited in amended Claim 1, a combination of these reference also fails to teach a structure as recited in amended claim 1. As a result, claim 1 is patentable over the applied combination of references.

Both Koller and Mews disclose a terminal which is dimensioned in consideration of the dimensions of the wiring finger, since groove-like recesses or extensions provided in the housing of the terminal serve as guide grooves for displacing the wiring finger within the terminal. Thus, the cited references represent the state of the prior art as explained in regard to Albeck, the admitted prior art reference. See Specification, pages 2 through 6. Albeck, like Koller and Mews, teaches that the dimension of the terminals is selected based on the standard size(s) of the wiring finger. Because the guide grooves of the terminal must engage a wiring finger, the terminals cannot be automatically wired when multiple terminals of a terminal block have to be

closely positioned to one another, or when a situation requires that the terminals each have a reduced size.

In contrast, the present invention permits the automatic wiring of terminal connections that can be dimensioned *without* consideration of the dimensions of the wiring finger. This is enabled by the method recited in amended claim 1 in which the wiring finger is at all times maintained outside the connection zone and the portions of the insulated housing surrounding the SBIPC. This, in turn, allows the slot (16) of the housing surrounding the SBIPC and, thus, the housing itself to be dimensioned based on considerations other than the size of the standardized wiring finger in contrast to what is taught by the cited prior art. Therefore, withdrawal and favorable reconsideration of the 103 rejection of claim 1 are in order.

Dependent Claim 4

Allowability of claim 4 is noted with appreciation, but since claim 1 is patentable, claim 4 remains dependent from independent claim 1.

Since linking claim 1 is allowable, rejoinder of claims 2, 3, 5 and 6 is respectfully solicited.

Conclusion

Based on all of the above, it is respectfully submitted that the present application is now in proper condition for allowance. Prompt and favorable action to this effect, and early passing of this application to issue, are respectfully solicited.

Should the Examiner have any comments, questions, suggestions or objections, the Examiner is respectfully requested to telephone the undersigned in order to facilitate reaching a resolution of any outstanding issues.

Respectfully submitted,
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